What is claimed is:

1. A tuned vibration absorbing system for a seat system comprising:

at least one flexible extension member coupled to the seat system; and

at least one suspended element coupled to said at least one flexible extension member;

said at least one flexible extension member and said at least one suspended element configured to absorb vibration within the seat system.

2. A system as in claim 1 further comprising:

at least one seat system attachment mechanism coupled between the seat system and said at least one flexible extension member.

3. A system as in claim 2 further comprising:

at least one housing coupled to said at least one seat system attachment mechanism and containing said at least one flexible extension member and said at least one suspended element.

4. A system as in claim 3 wherein said at least one seat system attachment mechanism comprises a threaded portion for threading said at least one housing thereon.

5. A system as in claim 3 wherein said housing is at least partially filled with a fluid.

6. A system as in claim 2 further comprising:

at least one vessel coupled to said at least one seat system attachment mechanism and containing said at least one flexible extension member, said at least one suspended element, and a fluid.

7. A system as in claim 2 wherein said at least one seat system attachment mechanism comprises a tubular clamping mechanism.

8. A system as in claim 1 wherein said at least one flexible extension member and said at least one suspended element have a natural frequency that is approximately equal to natural frequency of the seat system.

9. A system as in claim 1 wherein said at least one flexible extension member and said at least one suspended element are integrally formed as a single unit.

10. A system as in claim 1 wherein said at least one flexible extension member is noncylindrical in shape.

11. A system as in claim 1 wherein said at least one flexible extension member comprises:

a first rectangular cross-sectional surface area having a corresponding first bending moment; and

a second rectangular cross-sectional surface area having a corresponding second bending moment.

12. A system as in claim 11 wherein said first bending moment is directly related to a fore and aft natural frequency of the seat system and said second bending moment is directly related to a lateral natural frequency of the seat system.

13. A seat system comprising:

a tuned vibration absorbing system comprising;

a seat system attachment mechanism coupled to a seat frame;

a flexible extension member coupled to said seat system attachment mechanism; and

a suspended element coupled to said flexible extension member.

14. A system as in claim 13 wherein said seat system attachment mechanism is coupled to an upper portion of the seat system.

15. A system as in claim 13 wherein said seat system attachment mechanism is coupled to an upper portion of a seat back of the seat system.

16. A system as in claim 13 wherein said seat system attachment mechanism threads into a seat frame of the seat system.

17. A method of designing and manufacturing a seat system having a tuned vibration absorbing system comprising:

designing the tuned vibration absorbing system having at least one flexible extension member and at least one suspended element that absorb vibration within the seat system;

manufacturing the tuned vibration absorbing system; and

coupling the tuned vibration absorbing system to the seat system.

18. A method as in claim 17 wherein designing the tuned vibration absorbing system comprises designing said at least one flexible extension member and said at least one suspended element to have a natural frequency that is approximately equal to a natural frequency of the seat system.

19. A method as in claim 17 wherein designing the tuned vibration absorbing system comprises:

tuning a first rectangular cross-sectional surface area of said at least one flexible extension member to have a first bending moment; and

tuning a second rectangular cross-sectional surface area of said at least one flexible extension member to have a second bending moment.

20. A method as in claim 17 further comprising:

determining seat system design features;

determining mass of the seat system in response to said design features;

determining stiffness of the seat system in response to said design features;

determining natural frequency of the seat system in response to said mass and said stiffness; and

designing the tuned vibration absorbing system in response to said natural frequency of the seat system.